

Mysteries of the Sun

SCRIPT:

In some ways, we're very smart. We measure the distance to the Moon within one inch. We fly to distant planets with our space probes...even look to the edges of the universe with our telescopes.

But just as often, we find ourselves struggling to comprehend something staring us in the face every day. Take the Sun, for instance, sitting there every day since the dawn of history. You'd think we'd know it pretty well by now. Well...not exactly.

We just found out, using a new space probe, that the surface of the Sun is covered with bumps. It's not a smooth, round ball like we thought. The bumps are all about the same size, sort of like bubble-wrap, and we don't know why they're there.

Here's another mystery: Anything that's hot will always feel cooler as you move farther away from it. But on the Sun, it's the opposite! The temperature outside the Sun, in the Sun's atmosphere, is much hotter than the surface of the Sun. It's backwards, and we don't know why..! The Sun of a thousand centuries is still beyond our understanding. But we're a curious bunch. With our latest instruments, scientists say it won't be long before we can see inside the Sun. Then finally, we may discover the stubborn secrets of the great fire...the star that lights our world.

Relevant NSES Standards

NSES Content Standard A: Understanding about scientific inquiry.

(Grades K-12) Types of investigations include describing objects (the Sun).

(Grades 5-8) Investigations can result in new ideas for study.

(Grades 9-12) Scientists use technology (spacecraft) to collect data.

NSES Content Standard B: Physical science; properties of objects and materials.

(Grades K-4) Properties of objects include shape and temperature.

(Grades 5-12) Movement of heat from warmer to cooler objects.

NSES Content Standard D: Earth and space science.

(Grades K-4) Objects in the sky. The Sun.

(Grades 5-12) Objects in the solar system. The Sun is a star.

NSES Content Standard E: Science and technology.

(Grades K-12) Propose a solution to a problem (getting close to the Sun).

(Grades K-12) Tools help scientists make better observations (spacecraft as tool).

NSES Content Standard G: History and nature of science.

(Grades K-12) Much more remains to be understood. Science is incomplete.

Credits: Dr. Jeffrey Kuhn, Michigan State University; Bill Wagner, NASA

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